<Market Research Report>

FPC & Rigid-flex PCB Report 2022

Publication Date: August 9, 2022
Format: A4 Size 656 Pages book & a CD
Price (Corporate Price*): JPY660,000

*This contract allows for use within the purchasing company / organization.

Japan Marketing Survey Co., Ltd.
8F Higashi-Nihonbashi Makicho Building,
2-24-12 Higashi-Nihonbashi, Chuo-ku, Tokyo, 103-0004 Japan
Phone: 81-3-5829-3891
E-mail: info@jms21.co.jp
Web Site: https://www.jms21.co.jp

Executive Summary

・FPC & Rigid-Flex PCB Market size forecast……2
・FPC & Rigid-Flex PCB Market size forecast (General-purpose FPC & High frequency FPC)……3
・FPC & Rigid-Flex PCB manufacturer ranking 2021……4
・FPC & Rigid-Flex PCB manufacturers' share 2021(Includes assembly business) ……5
・FPC & Rigid-Flex PCB manufacturers' share 2021(Not include assembly business)……6
・FPC & Rigid-Flex PCB manufacturers'share by resin (General Purpose polyimide FPC)……7
・FPC & Rigid-Flex PCB manufacturers'share by resin (LCP-based FPC) ……8
・FPC & Rigid-Flex PCB manufacturers'share by resin (MPI-based FPC)……9
・manufacturers' share of FPC & Rigid-Flex PCB by application (PI) ……10
・manufacturers' share of FPC & Rigid-Flex PCB by application (By resin-LCP) ……11
・manufacturers' share of FPC & Rigid-Flex PCB by application (By resin-MPI)……12
・Market size forecast by layer count ……13
・Market size forecast by layer count and by resin ……14
・Market size forecast Single-sided FPC by application ……15
・Market size forecast Single-sided FPC by resin ……16
・Market size forecast Double-sided FPC by application ……17
・Market size forecast Double-sided FPC by resin ……18
・Market size forecast Multilayer by application……19
・Market size forecast Multilayer by resin ……20
・Market size forecast Rigid-flex by application ……21
・Market size forecast Rigid-flex by resin ……22
・Market trends in FPC & Rigid-Flex PCB by Application……23
・Market trends in FPC & Rigid-Flex PCB by Application (by resin) ……24
・Market trends in FPC & Rigid-Flex PCB by Application (overall)……26
・Market trends in FPC & Rigid-Flex PCB by Application (Mobile phone) ……27
Market share of Mobile Phone (2021)……28
Market size forecast of Mobile Phone……29
Trends of FPC usages and decomposition iPhone13Pro……30
Trends of FPC usages and decomposition Galaxy S21 Ultra 5G……31
Trends of FPC usages and decomposition Galaxy Z Flip 3 Ultra 5G……32
Trends of FPC usages and decomposition Xperia Pro……33
Trends of FPC usages and decomposition Huawei Mate 30 Pro……34
Trends of FPC usages and decomposition Vivo NEX3 5G……35
Market trends in FPC & Rigid-Flex PCB Mobile phone by application ……36
Market trends in FPC & Rigid-Flex PCB Mobile phone by resin ……37
Trends of FPC for Camera Module (for Mobile Phone) ……38
Market size forecast of FPC for Camera Module (for Mobile Phone) ……39
Market size forecast of FPC for Camera Module by resin ……40
Trends of FPC for sensor shift suspension ……41
Market size forecast of FPC for sensor shift suspension ……42

Trends of FPC for Touch sensor panel (for Mobile Phone) ····· 43
Market size forecast of Display module FPC (for LCD) ····· 44
Trends of FPC for display module (for OLED), Market size forecast for OLED panels for smartphones ····· 45
manufacturer's share for display modules (for OLED) ····· 46
Display module (for OLED) trend (FPC manufacturer trend for iPhone) ····· 47
Market size forecast of FPC for display module (for OLED) (by resin/layer count) ····· 48
Market size forecast of FPC for display module (for OLED) (Multilayer/Rigid-flex by resin) ·· 49
Market size forecast for FPC for antenna modules (overall) ····· 50
Market size forecast of FPC for antenna module (4G/5G/sub6/USB antenna/antenna module for AiP) ····· 51
Manufacturers' share of FPC for antenna modules (4G/5G/sub6/USB antennas/antenna modules for AiP) ····· 52
FPC market size forecast for antenna modules (4G/5G/sub6/USB antenna) ····· 53
Antenna Module Trends (U Antenna for iPhone, UWB, ISM Antenna) ····· 54
Antenna Module Trends (Galaxy UWB Antenna - S21 Ultra 5G) ····· 55
Trend of in FPC antenna Module of AiP ····· 56
FPC market size forecast Antenna Module of AiP ····· 57
FPC market size forecast Antenna Module of AiP (by resin) ····· 58
Trend of in FPC antenna Module (others) ····· 59
Market size forecast in FPC for dock-flex, sub boards ····· 60
Trend in FPC of dock-flex, sub boards ····· 61
Market size forecast for dock-flex, sub boards by resin and layer count ····· 62
・Market Trends by Application - Automotive FPC Market ····· 63
Market Trends by Application - Automotive FPC Market ····· 64
FPC for Automotive Products: Market size forecast of Automotive ····· 65
Market size forecast for automotive products - by layer count and by resin ····· 66
Trends of FPC by Application for Automotive Automotive Electronics Parts in Which FPCs are Adopted ····· 67
Trends of FPC by Application for Automotive—Categorization by FPC-Adopted ····· 68
Trends of FPC by Application for Automotive Trends in Parts in Which FPCs are Adopted ····· 69
Manufacturers' share of FPC & Rigid-Flex PCB by application Automotive Products ····· 70
・Market trends by application - VR/AR ····· 71
Market size forecast for VR/AR ····· 72
Market size forecast of FPC for VR/AR ····· 72
Market size forecast of FPC for VR/AR (by resin and layer count) ····· 73
・Price trends ····· 75

Chapter 1 Type of FPC & Rigid-Flex PCB Market

1 Overview of FPC market - Classification and description of FPC ····· 77
2 Market size of FPC
2-1 FPC & Rigid-Flex PCB Total Market(including assembly) ····· 78
2-2 FPC & Rigid-Flex PCB Total Market(not include assembly) ····· 80
2-3 Manufacturers' share by layer-count
2-3-1 Single-sided, Double-sided, Multilayer, Rigid-flex ····· 81
2-3-2 by resin (PI, LCP, MPI) ····· 83
2-3-3 Manufacturers' share by resin of multilayer (PI, LCP, MPI) ····· 85
2-3-4 Manufacturers' share by resin of Rigid-flex (PI, LCP, MPI) ····· 87
2-4 Manufacturers' share by Application overall ····· 89
2-4-1 Manufacturers' share by Application Multilayer ····· 93
2-4-2 Manufacturers' share by Application Rigid-flex ····· 97

Chapter 2, Trend of high frequency of FPC & Rigid-flex

1 Definition of high speed and high frequency FPC for mobile ····· 102
2 Classification of high speed and high frequency FPC for mobile ····· 103
3 Products under survey ····· 104
4 Market size forecasts of high frequency FPC ····· 105
5 Technology trends for high speed and high frequency FPC
5-1 Antenna module ····· 106
(1) 4G, Sub6, UWB antenna technology trends by smartphone
(2) Trends of 5G millimeter-wave antenna technology by smartphone
(3) Technology Trends of Apple
5-2 dock flex/sub board ····· 109
5-3 Display module ····· 110
5-4 Camera module ····· 111
6 Supply chain
(1) iPhone ····· 112
(2) Samsung, others ····· 113
7 Trend of FPC with high frequency
7-1 iPhone antenna module ····· 114
(1) Evolution of antenna modules in iPhone
(2) iPhone 13 antenna module
(3) Trend of antenna module FPC
7-2 Dock flex of iPhone ····· 118
(1) Tear-down view
(2) Trend of dock flex FPC
7-3 Samsung antenna module ····· 119
(1) Tear-down view
(2) Trend of Antenna FPC
7-4 Status of other FPC manufacturers ····· 122

Chapter 3 Market of FPC & Rigid-Flex PCB by Application

1 Market trends by Application
1-1 Overall market by Application by layer-count (Volume-based) ····· 124
1-2 Overall market by Application by layer-count (Amount-based) ····· 126
1-3 Manufacturers' share by Application (Overall Market) (Volume-based) ····· 128
1-4 Manufacturers' share by Application (Overall Market) (Amount-based) ····· 129

2 Manufacturers' share by Application
2-1 Total Mobile Phone Market (general purpose PI, LCP, MPI) ····· 130
(1) Manufacturers' share by layer count of Total Mobile phone (Volume-based)
(2) Manufacturers' share by layer count of Total Mobile phone (Amount-based)
(3) Manufacturers' share by Multilayer of Total Mobile phone (Volume-based)
(4) Manufacturers' share by Multilayer of Total Mobile phone (Amount-based)
(5) Manufacturers' share by Rigid-flex of Total Mobile phone (Volume-based)
(6) Manufacturers' share by Rigid-flex of Total Mobile phone (Amount-based)

2-2 Camera module (Mobile Phone) Market (general purpose PI, LCP, MPI) ····· 137
(1) Manufacturers' share by layer count of Camera module (Volume-based)
(2) Manufacturers' share by layer count of Camera module (Amount-based)
(3) Manufacturers' share by Multilayer of Camera module (Volume-based)
(4) Manufacturers' share by Multilayer of Camera module (Amount-based)
(5) Manufacturers' share by Rigid-flex of Camera module (Volume-based)
(6) Manufacturers' share by Rigid-flex of Camera module (Amount-based)

2-3 Sensor Shift suspension (Mobile Phone) (general purpose PI, LCP, MPI) ····· 144
(1) Manufacturers' share by layer count of Sensor Shift suspension (Volume-based)
(2) Manufacturers' share by layer count of Sensor Shift suspension (Amount-based)

2-4 Touch Sensor panel module (Mobile Phone) (general purpose PI, LCP, MPI) ····· 147
(1) Manufacturers' share by layer count of Touch Sensor panel module (Volume-based)
(2) Manufacturers' share by layer count of Touch Sensor panel module (Amount-based)

2-5 Display Module of LCD (Mobile Phone) (general purpose PI, LCP, MPI) ····· 150
(1) Manufacturers' share by layer count of Touch Sensor panel module (Volume-based)
(2) Manufacturers' share by layer count of Touch Sensor panel module (Amount-based)
(3) Manufacturers' share by Multilayer of Touch Sensor panel module (Volume-based)
(4) Manufacturers' share by Multilayer of Touch Sensor panel module (Amount-based)
(5) Manufacturers' share by Rigid-flex of Touch Sensor panel module (Volume-based)
(6) Manufacturers' share by Rigid-flex of Touch Sensor panel module (Amount-based)

2-6 Display Module of OLED (Mobile Phone) (general purpose PI, LCP, MPI)····· 157
(1) Manufacturers' share by layer count of Display Module of OLED (Volume-based)
(2) Manufacturers' share by layer count of Display Module of OLED (Amount-based)
(3) Manufacturers' share by Multilayer of Display Module of OLED (Volume-based)
(4) Manufacturers' share by Multilayer of Display Module of OLED (Amount-based)
(5) Manufacturers' share by Rigid-flex of Display Module of OLED (Volume-based)
(6) Manufacturers' share by Rigid-flex of Display Module of OLED (Amount-based)

2-7 Antenna module (Mobile Phone) (general purpose PI, LCP, MPI)····· 164
(1) Manufacturers' share by layer count of Antenna module (Volume-based)
(2) Manufacturers' share by layer count of Antenna module (Amount-based)
(3) Manufacturers' share by Multilayer of Antenna module (Volume-based)
(4) Manufacturers' share by Multilayer of Antenna module (Amount-based)
(5) Manufacturers' share by Rigid-flex of Antenna module (Volume-based)
(6) Manufacturers' share by Rigid-flex of Antenna module (Amount-based)

2-8 Antenna module of AiP (Mobile Phone) (general purpose PI, LCP, MPI)····· 171
(1) Manufacturers' share by layer count of Antenna module of AiP (Volume-based)
(2) Manufacturers' share by layer count of Antenna module of AiP (Amount-based)
(3) Manufacturers' share by Multilayer of Antenna module of AiP (Volume-based)
(4) Manufacturers' share by Multilayer of Antenna module of AiP (Amount-based)
(5) Manufacturers' share by Rigid-flex of Antenna module of AiP (Volume-based)
(6) Manufacturers' share by Rigid-flex of Antenna module of AiP (Amount-based)

2-9 Dock flex, sub board (Mobile Phone) (general purpose PI, LCP, MPI)····· 178
(1) Manufacturers' share by layer count of Dock flex, sub board (Volume-based)
(2) Manufacturers' share by layer count of Dock flex, sub board (Amount-based)
(3) Manufacturers' share by Multilayer of Dock flex, sub board (Volume-based)
(4) Manufacturers' share by Multilayer of Dock flex, sub board (Amount-based)
(5) Manufacturers' share by Rigid-flex of Dock flex, sub board (Volume-based)
(6) Manufacturers' share by Rigid-flex of Dock flex, sub board (Amount-based)

2-10 Others (sensor and modules and etc) (Mobile Phone) (general purpose PI, LCP, MPI)· 185
(1) Manufacturers' share by layer count of Others (mobile) (Volume-based)
(2) Manufacturers' share by layer count of Others (mobile) (Amount-based)
(3) Manufacturers' share by Multilayer of Others (mobile) (Volume-based)
(4) Manufacturers' share by Multilayer of Others (mobile) (Amount-based)
(5) Manufacturers' share by Rigid-flex of Others (mobile) (Volume-based)
(6) Manufacturers' share by Rigid-flex of Others (mobile) (Amount-based)

3 Market of Table FPC (general purpose PI, LCP, MPI)
3-1 Total market of Tablet (general purpose PI, LCP, MPI)····· 192
(1) Manufacturers' share by layer count of Total market of Tablet (Volume-based)

(2) Manufacturers' share by layer count of Total market of Tablet (Amount-based)
(3) Manufacturers' share by Multilayer of Total market of Tablet (Volume-based)
(4) Manufacturers' share by Multilayer of Total market of Tablet (Amount-based)
(5) Manufacturers' share by Rigid-flex of Total market of Tablet (Volume-based)
(6) Manufacturers' share by Rigid-flex of Total market of Tablet (Amount-based)

3-2 Camera module (Tablet) (general purpose PI, LCP, MPI)····· 199
(1) Manufacturers' share by layer count of Camera module (Tablet) (Volume-based)
(2) Manufacturers' share by layer count of Camera module (Tablet) (Amount-based)
(3) Manufacturers' share by Multilayer of Camera module (Tablet) (Volume-based)
(4) Manufacturers' share by Multilayer of Camera module (Tablet) (Amount-based)
(5) Manufacturers' share by Rigid-flex of Camera module (Tablet) (Volume-based)
(6) Manufacturers' share by Rigid-flex of Camera module (Tablet) (Amount-based)

3-3 Display module (Tablet) (general purpose PI, LCP, MPI)····· 206
(1) Manufacturers' share by layer count of Display module (Tablet) (Volume-based)
(2) Manufacturers' share by layer count of Display module (Tablet) (Amount-based)
(3) Manufacturers' share by Multilayer of Display module (Tablet) (Volume-based)
(4) Manufacturers' share by Multilayer of Display module (Tablet) (Amount-based)
(5) Manufacturers' share by Rigid-flex of Display module (Tablet) (Volume-based)
(6) Manufacturers' share by Rigid-flex of Display module (Tablet) (Amount-based)

3-4 touch sensor panel module (Tablet) (general purpose PI, LCP, MPI)····· 213
(1) Manufacturers' share by layer count of touch sensor panel module (Volume-based)
(2) Manufacturers' share by layer count of touch sensor panel module (Amount-based)
(3) Manufacturers' share by Multilayer of touch sensor panel module (Volume-based)
(4) Manufacturers' share by Multilayer of touch sensor panel module (Amount-based)

3-5 Antenna module (Tablet) (general purpose PI, LCP, MPI)····· 218
(1) Manufacturers' share by layer count of Antenna module (Tablet) (Volume-based)
(2) Manufacturers' share by layer count of Antenna module (Tablet) (Amount-based)
(3) Manufacturers' share by Multilayer of Antenna module (Tablet) (Volume-based)
(4) Manufacturers' share by Multilayer of Antenna module (Tablet) (Amount-based)

3-6 Others for tablet (general purpose PI, LCP, MPI)····· 223
(1) Manufacturers' share by layer count of Others for tablet (Volume-based)
(2) Manufacturers' share by layer count of Others for tablet (Amount-based)
(3) Manufacturers' share by Multilayer of Others for tablet (Volume-based)
(4) Manufacturers' share by Multilayer of Others for tablet (Amount-based)
(5) Manufacturers' share by Rigid-flex of Others for tablet (Volume-based)
(6) Manufacturers' share by Rigid-flex of Others for tablet (Amount-based)

4 FPC of HDD
4-1 Suspension for HDD (general purpose PI, LCP, MPI)····· 230
(1) Manufacturers' share by layer count of Suspension for HDD (Volume-based)
(2) Manufacturers' share by layer count of Suspension for HDD (Amount-based)
4-2 Actuator and Others for HDD(general purpose PI, LCP, MPI)····· 233
(1) Manufacturers' share by layer count of Actuator and Others for HDD (Volume-based)
(2) Manufacturers' share by layer count of Actuator and Others for HDD (Amount-based)

5 FPC of PC
5-1 FPC of PC (Mac book , Lets note) (general purpose PI, LCP, MPI)····· 236
(1) Manufacturers' share by layer count of PC (Mac book, Lets note) (Volume-based)
(2) Manufacturers' share by layer count of PC (Mac book, Lets note) (Amount-based)
(3) Manufacturers' share by Multilayer of PC (Mac book, Lets note) (Volume-based)
(4) Manufacturers' share by Multilayer of PC (Mac book, Lets note) (Amount-based)
(5) Manufacturers' share by Rigid-flex of PC (Mac book, Lets note) (Volume-based)
(6) Manufacturers' share by Rigid-flex of PC (Mac book, Lets note) (Amount-based)

5-2 FPC of PC others (general purpose PI, LCP, MPI)····· 243
(1) Manufacturers' share by layer count of PC others (Volume-based)
(2) Manufacturers' share by layer count of PC others (Amount-based)
(3) Manufacturers' share by Multilayer of PC others (Volume-based)
(4) Manufacturers' share by Multilayer of PC others (Amount-based)

6 Automotive Products (general purpose PI, LCP, MPI)····· 248
(1) Manufacturers' share by layer count of Automotive Products (Volume-based)
(2) Manufacturers' share by layer count of Automotive Products (Amount-based)
(3) Manufacturers' share by Multilayer of Automotive Products (Volume-based)
(4) Manufacturers' share by Multilayer of Automotive Products (Amount-based)
(5) Manufacturers' share by Rigid-flex of Automotive Products (Volume-based)
(6) Manufacturers' share by Rigid-flex of Automotive Products (Amount-based)

7 Wireless earphones for FPC (General Purpose polyimide, LCP, MPI) ····· 255
(1) Manufacturers' share by layer count of Wireless earphones (Volume-based)
(2) Manufacturers' share by layer count of Wireless earphones (Amount-based)
(3) Manufacturers' share by Multilayer of Wireless earphones (Volume-based)
(4) Manufacturers' share by Multilayer of Wireless earphones (Amount-based)
(5) Manufacturers' share by Rigid-flex of Wireless earphones (Volume-based)
(6) Manufacturers' share by Rigid-flex of Wireless earphones (Amount-based)
8 Smart Watch of FPC (General Purpose polyimide, LCP, MPI)····· 262
(1) Manufacturers' share by layer count of Smart Watch (Volume-based)
(2) Manufacturers' share by layer count of Smart Watch (Amount-based)
(3) Manufacturers' share by Multilayer of Smart Watch (Volume-based)
(4) Manufacturers' share by Multilayer of Smart Watch (Amount-based)

9 VR/AR of FPC(General Purpose polyimide, LCP, MPI) ····· 267
(1) Manufacturers' share by layer count of VR/AR (Volume-based)
(2) Manufacturers' share by layer count of VR/AR (Amount-based)
(3) Manufacturers' share by Rigid-flex of VR/AR (Volume-based)
(4) Manufacturers' share by Rigid-flex of VR/AR (Amount-based)

10 Industrial, Aerospace, Military and Others (General Purpose polyimide, LCP, MPI) ····· 272
(1) Manufacturers' share by layer count of Industrial, Aerospace, Military and Others (Volume-based)
(2) Manufacturers' share by layer count of Industrial, Aerospace, Military and Others (Amount-based)
(3) Manufacturers' share by Multilayer of Industrial, Aerospace, Military and Others (Volume-based)
(4) Manufacturers' share by Multilayer of Industrial, Aerospace, Military and Others (Amount-based)
(5) Manufacturers' share by Rigid-flex of Industrial, Aerospace, Military and Others (Volume-based)
(6) Manufacturers' share by Rigid-flex of Industrial, Aerospace, Military and Others (Amount-based)

Chapter 4 FPC Market Size Forecast

1 Market size forecast by layer-count
1-1 Market size forecast by layer-count for Total FPC (Volume-based) ····· 280
1-2 Market size forecast by layer-count for Total FPC (Amount-based) ····· 282
1-3 Market size forecast by application overall (Volume-based) ····· 284
1-4 Market size forecast by application overall (Amount-based) ····· 286

1-5 Market size forecast by application of resin
1-5-1 Market size forecast by Single-sided ····· 288
1) Market size forecast of single-sided (General Purpose polyimide) (Volume-based)
2) Market size forecast of single-sided (General Purpose polyimide) (Amount-based)
1-5-2 Market size forecast by Double-sided ····· 290
1) Market size forecast by Double-sided (Volume-based)
(1) Market size forecast of Double-sided overall
(2) Market size forecast by resin of Double-sided (General Purpose polyimide)
(3) Market size forecast by resin of Double-sided (LCP)
(4) Market size forecast by resin of Double-sided (MPI)
2) Market size forecast by Double-sided (Amount-based)
(1) Market size forecast of Double-sided overall
(2) Market size forecast by resin of Double-sided (General Purpose polyimide)
(3) Market size forecast by resin of Double-sided (LCP)
(4) Market size forecast by resin of Double-sided (MPI)

1-5-3 Market size forecast by Multilayer ····· 298
1) Market size forecast by Multilayer (Volume-based)
(1) Market size forecast of Multilayer overall
(2) Market size forecast by resin of Multilayer (General Purpose polyimide)
(3) Market size forecast by resin of Multilayer (LCP)
(4) Market size forecast by resin of Multilayer (MPI)
(5) Market size forecast by resin of Multilayer (Fluororesin/polyimide)

2) Market size forecast by Multilayer (Amount-based)
(1) Market size forecast of Multilayer overall
(2) Market size forecast by resin of Multilayer (General Purpose polyimide)
(3) Market size forecast by resin of Multilayer (LCP)
(4) Market size forecast by resin of Multilayer (MPI)
(5) Market size forecast by resin of Multilayer (Fluororesin/polyimide)

1-5-4 Market size forecast by Rigid-flex ····· 312
1) Market size forecast by Rigid-flex (Volume-based)
(1) Market size forecast of Rigid-flex overall
(2) Market size forecast by resin of Rigid-flex (General Purpose polyimide)
(3) Market size forecast by resin of Multilayer (MPI)

2) Market size forecast by Rigid-flex (Amount-based)
(1) Market size forecast of Rigid-flex overall
(2) Market size forecast by resin of Rigid-flex (General Purpose polyimide)
(3) Market size forecast by resin of Multilayer (MPI)

2 Market size forecast of application
2-1 Market size forecast of application Total Mobile phone (PI, LCP, MPI) ····· 322
(1) Market size forecast of application by layer count of Total Mobile phone (Volume-based)
(2) Market size forecast of application by layer count of Total Mobile phone (Amount-based)
(3) Market size forecast of application by Multilayer of Total Mobile phone (Volume-based)
(4) Market size forecast of application by Multilayer of Total Mobile phone (Amount-based)
(5) Market size forecast of application by Rigid-flex of Total Mobile phone (Volume-based)
(6) Market size forecast of application by Rigid-flex of Total Mobile phone (Amount-based)

2-2 Market size forecast of application of Camera module (PI, LCP, MPI) ····· 330
(1) Market size forecast of application by layer count of Camera module (Volume-based)
(2) Market size forecast of application by layer count of Camera module (Amount-based)
(3) Market size forecast of application by Multilayer of Camera module (Volume-based)
(4) Market size forecast of application by Multilayer of Camera module (Amount-based)
(5) Market size forecast of application by Rigid-flex of Camera module (Volume-based)
(6) Market size forecast of application by Rigid-flex of Camera module (Amount-based)

2-3 Market size forecast of application by Sensor Shift suspension (PI, LCP, MPI) ····· 338
(1) Market size forecast of application by layer count of Sensor Shift suspension (Volume-based)
(2) Market size forecast of application by layer count of Sensor Shift suspension (Amount-based)
2-4 Market size forecast of application by Touch Sensor panel module (PI, LCP, MPI) ····· 342
(1) Manufacturers' share by layer count of Touch Sensor panel module (Volume-based)
(2) Manufacturers' share by layer count of Touch Sensor panel module (Amount-based)

2-5 Market size forecast of application by Display Module (LCD) (PI, LCP, MPI) ····· 346
(1) Market size forecast by layer count of Display Module (LCD) (Volume-based)
(2) Market size forecast by layer count of Display Module (LCD) (Amount-based)
(3) Market size forecast by Multilayer of Display Module (LCD) (Volume-based)
(4) Market size forecast by Multilayer of Display Module (LCD) (Amount-based)
2-6 Market size forecast of application by Display Module (OLED) (PI, LCP, MPI) ····· 352
(1) Market size forecast by layer count of Display Module of OLED (Volume-based)
(2) Market size forecast by layer count of Display Module of OLED (Amount-based)
(3) Market size forecast by Multilayer of Display Module of OLED (Volume-based)
(4) Market size forecast by Multilayer of Display Module of OLED (Amount-based)
(5) Market size forecast by Rigid-flex of Display Module of OLED (Volume-based)
(6) Market size forecast by Rigid-flex of Display Module of OLED (Amount-based)

2-7 Market size forecast of application by Antenna module (PI, LCP, MPI) ····· 360
(1) Market size forecast by layer count of Antenna module (Volume-based)
(2) Market size forecast by layer count of Antenna module (Amount-based)
(3) Market size forecast by Multilayer of Antenna module (Volume-based)
(4) Market size forecast by Multilayer of Antenna module (Amount-based)
(5) Market size forecast by Rigid-flex of Antenna module (Volume-based)
(6) Market size forecast by Rigid-flex of Antenna module (Amount-based)

2-8 Market size forecast of application by Antenna module of AiP (PI, LCP, MPI) ····· 368
(1) Market size forecast by layer count of Antenna module of AiP (Volume-based)
(2) Market size forecast by layer count of Antenna module of AiP (Amount-based)
(3) Market size forecast by Multilayer of Antenna module of AiP (Volume-based)
(4) Market size forecast by Multilayer of Antenna module of AiP (Amount-based)
(5) Market size forecast by Rigid-flex of Antenna module of AiP (Volume-based)
(6) Market size forecast by Rigid-flex of Antenna module of AiP (Amount-based)

2-9 Market size forecast of application by Dock flex, sub board (PI, LCP, MPI) ····· 376
(1) Market size forecast by layer count of Dock flex, sub board (Volume-based)
(2) Market size forecast by layer count of Dock flex, sub board (Amount-based)
(3) Market size forecast by Multilayer of Dock flex, sub board (Volume-based)
(4) Market size forecast by Multilayer of Dock flex, sub board (Amount-based)
(5) Market size forecast by Rigid-flex of Dock flex, sub board (Volume-based)
(6) Market size forecast by Rigid-flex of Dock flex, sub board (Amount-based)

2-10 Market size forecast of application by Others (sensor and modules and etc) (PI, LCP, MPI) 384
(1) Market size forecast by layer count of Others (mobile) (Volume-based)
(2) Market size forecast by layer count of Others (mobile) (Amount-based)
(3) Market size forecast by Multilayer of Others (mobile) (Volume-based)
(4) Market size forecast by Multilayer of Others (mobile) (Amount-based)
(5) Market size forecast by Rigid-flex of Others (mobile) (Volume-based)
(6) Market size forecast by Rigid-flex of Others (mobile) (Amount-based)

3 Market size forecast of application by Tablet (PI, LCP, MPI)
3-1 Market size forecast of application (overall) ····· 392
(1) Market size forecast by layer count of Total market of Tablet (Volume-based)
(2) Market size forecast by layer count of Total market of Tablet (Amount-based)
(3) Market size forecast by Multilayer of Total market of Tablet (Volume-based)
(4) Market size forecast by Multilayer of Total market of Tablet (Amount-based)
(5) Market size forecast by Rigid-flex of Total market of Tablet (Volume-based)
(6) Market size forecast by Rigid-flex of Total market of Tablet (Amount-based)

3-2 Market size forecast by application FPC of camera module (Tablet) ····· 400
(1) Market size forecast by layer count of Camera module (Tablet) (Volume-based)
(2) Market size forecast by layer count of Camera module (Tablet) (Amount-based)
(3) Market size forecast by Multilayer of Camera module (Tablet) (Vdume-based)
(4) Market size forecast by Multilayer of Camera module (Tablet) (Amount-based)
(5) Market size forecast by Rigid-flex of Camera module (Tablet) (Volume-based)
(6) Market size forecast by Rigid-flex of Camera module (Tablet) (Amount-based)

3-3 Market size forecast by application FPC of Display module (Tablet) ····· 408
(1) Market size forecast by layer count of Display module (Tablet) (Volume-based)
(2) Market size forecast by layer count of Display module (Tablet) (Amount-based)
(3) Market size forecast by Multilayer of Display module (Tablet) (Volume-based)
(4) Market size forecast by Multilayer of Display module (Tablet) (Amount-based)
(5) Market size forecast by Rigid-flex of Display module (Tablet) (Volume-based)
(6) Market size forecast by Rigid-flex of Display module (Tablet) (Amount-based)

3-4 Market size forecast by application FPC of touch sensor panel module (Tablet) ····· 416
(1) Market size forecast by layer count of touch sensor panel module (Tablet) (Volume-based)
(2) Market size forecast by layer count of touch sensor panel module (Tablet) (Amount-based)
(3) Market size forecast by Multilayer of touch sensor panel module (Tablet) (Volume-based)
(4) Market size forecast by Multilayer of touch sensor panel module (Tablet) (Amount-based)
3-5 Market size forecast by application FPC of Antenna module (Tablet) ····· 422
(1) Market size forecast by layer count of Antenna module (Tablet) (Volume-based)
(2) Market size forecast by layer count of Antenna module (Tablet) (Amount-based)
(3) Market size forecast by Multilayer of Antenna module (Tablet) (Volume-based)
(4) Market size forecast by Multilayer of Antenna module (Tablet) (Amount-based)

3-6 Market size forecast by application FPC of Others for tablet ····· 428
(1) Market size forecast by layer count of Others for tablet (Volume-based)
(2) Market size forecast by layer count of Others for tablet (Amount-based)
(3) Market size forecast by Multilayer of Others for tablet (Volume-based)
(4) Market size forecast by Multilayer of Others for tablet (Amount-based)
(5) Market size forecast by Rigid-flex of Others for tablet (Volume-based)
(6) Market size forecast by Rigid-flex of Others for tablet (Amount-based)

4 Market size forecast of application in FPC of HDD (PI, LCP, MPI)
4-1 Market size forecast by application FPC of Suspension for HDD ····· 436
(1) Market size forecast by layer count of Suspension for HDD (Volume-based)
(2) Market size forecast by layer count of Suspension for HDD (Amount-based)

4-2 Market size forecast by application FPC of Actuator and Others for HDD ····· 440
(1) Market size forecast by layer count of Actuator and Others for HDD (Volume-based)
(2) Market size forecast by layer count of Actuator and Others for HDD (Amount-based)

5 Market size forecast of application by FPC of PC
5-1 Market size forecast by application FPC of PC (Mac book, Lets note) ····· 444
(1) Market size forecast by layer count of PC (Mac book, Lets note) (Volume-based)
(2) Market size forecast by layer count of PC (Mac book, Lets note) (Amount-based)
(3) Market size forecast by Multilayer of PC (Mac book, Lets note) (Volume-based)
(4) Market size forecast by Multilayer of PC (Mac book, Lets note) (Amount-based)
(5) Market size forecast by Rigid-flex of PC (Mac book, Lets note) (Volume-based)
(6) Market size forecast by Rigid-flex of PC (Mac book, Lets note) (Amount-based)

5-2 Market size forecast by application FPC of PC others ····· 452
(1) Market size forecast by layer count of PC others (Volume-based)
(2) Market size forecast by layer count of PC others (Amount-based)
(3) Market size forecast by Multilayer of PC others (Volume-based)
(4) Market size forecast by Multilayer of PC others (Amount-based)

6 Market size forecast by application FPC of Automotive Products ····· 458
(1) Market size forecast by layer count of Automotive Products (Volume-based)
(2) Market size forecast by layer count of Automotive Products (Amount-based)
(3) Market size forecast by Multilayer of Automotive Products (Volume-based)
(4) Market size forecast by Multilayer of Automotive Products (Amount-based)
(5) Market size forecast by Rigid-flex of Automotive Products (Volume-based)
(6) Market size forecast by Rigid-flex of Automotive Products (Amount-based)

7 Market size forecast by application FPC of Wireless earphones ····· 466
(1) Market size forecast by layer count of Wireless earphones (Volume-based)
(2) Market size forecast by layer count of Wireless earphones (Amount-based)

(3) Market size forecast by Multilayer of Wireless earphones (Volume-based)
(4) Market size forecast by Multilayer of Wireless earphones (Amount-based)
(5) Market size forecast by Rigid-flex of Wireless earphones (Volume-based)
(6) Market size forecast by Rigid-flex of Wireless earphones (Amount-based)

8 Market size forecast by application FPC of Smart Watch ····· 474
(1) Market size forecast by layer count of Smart Watch (Volume-based)
(2) Market size forecast by layer count of Smart Watch (Amount-based)
(3) Market size forecast by Multilayer of Smart Watch (Volume-based)
(4) Market size forecast by Multilayer of Smart Watch (Amount-based)
9 Market size forecast by application FPC of VR/AR ····· 480
(1) Market size forecast by layer count of VR/AR (Volume-based)
(2) Market size forecast by layer count of VR/AR (Amount-based)
(3) Market size forecast by Rigid-flex of VR/AR (Volume-based)
(4) Market size forecast by Rigid-flex of VR/AR (Amount-based)

10 Market size forecast by application of Industrial, Aerospace, Military and Others····· 488
(1) Market size forecast by layer count of Industrial, Aerospace, Military and Others (Volume-based)
(2) Market size forecast by layer count of Industrial, Aerospace, Military and Others (Amount-based)
(3) Market size forecast by Multilayer of Industrial, Aerospace, Military and Others (Volume-based)
(4) Market size forecast by Multilayer of Industrial, Aerospace, Military and Others (Amount-based)
(5) Market size forecast by Rigid-flex of Industrial, Aerospace, Military and Others (Volume-based)
(6) Market size forecast by Rigid-flex of Industrial, Aerospace, Military and Others (Amount-based)

Chapter 5 Case Study

1. Japanese Manufacturer
Fujikura LTD. ····· 497
Murata Manufacturing Co., Ltd. ····· 504
NIPPON MEKTRON. LTD.····· 512
NITTO DENKO CORPORATION····· 521
SUMITOMO ELECTRIC PRINTED CIRCUITS CO., LTD. ····· 526

2. Korean Manufacturer
BH CO., LTD.····· 533
INTERFLEX CO., LTD.····· 542
NewFlex Technology Co., Ltd ····· 551
SI FLEX CO., LTD. ····· 560

3. Taiwanese Manufacturer

Career Technology (MFG.) Co., Ltd. 578
Compeq Manufacturing Co., Ltd. 586
FLEXium Interconnect.Inc. 595
ICHIA TECHNOLOGIES INC. 602
Unimicron Techonology Corporation 603
Zhen Ding Technology Holding Limited. 609

4. Chinese Manufacturer

Shenzhen Kinwong Electronic co., Ltd. 618
Suzhou Dongshan Precision Manufacturing Co., Ltd. 627
XIAMEN HONGXIN ELECTRONICS TECHNOLOGY GROUP INC. 634
AKM Industrial Co., Ltd. 643
JiangXi Holitech Technology Co., Ltd 644
Leader-tech Electronics (Shenzhen) INC 645
Netron Soft-Tech (Zhuhai) Co. Ltd 646
Zhuhai TOPSUN Electronic Technology Co., Ltd. 647

5.Others

MFS Technology., Ltd 648

About the Report and how to order

1.Contract & Price

-Corporate contract : JPY 660,000-

This contract allows for use within the purchasing company / organization.

-Global contract : JPY 880,000-

This contract allows for use within the purchasing company / organization and the subsidiaries with a 51% stake or more.

*We (JMS) hold the copyright on this report in any contract.

2. Publication Date: August 9, 2022

3. Format: A4 Size 656 Pages book & a CD

4.Others

Depending on the type of business other than manufacturers or trading companies, above these prices

may not apply, or this publication may not be available.

<How to order>

1.Please fill out the blanks in the application form.

2.Please send the application form by E-mail (info@jms21.co.jp) or go to our website to purchase our reports.

3.There are two ways to make a payment either by credit card or by wire transfer.

(Please choose appropriate application form by the payment way.)

In case you choose wire transfer, please make a payment within 15 business days.

In addition, please kindly bear the bank remitting charges concerned with yourself.

Application Form (for Credit Card)

To: Japan Marketing Survey Co., Ltd.

Date: / / .

Report Title:

FPC & Rigid-flex PCB Report 2022

Please check ☑ type of contract

☐ Corporate Contract / ☐Global Contract

*Accepting the conditions of the type of contract (previous page), please fill out the blanks below form.

Corporate Name: .

Applicant's Name: .

Applicant's Department: .

Corporate Address: .

. .

TEL: E-mail: .

<Credit Card Information> * Visa, Master or AMEX

Card Type: Card Number : .

Expiration date: Name on the card: .

Signature: .

Application Form (for Wire Transfer)

To: Japan Marketing Survey Co., Ltd.

Date: / / .

Report Title :

FPC & Rigid-flex PCB Report 2022

Please check ☑ type of contract

☐ Corporate Contract / ☐Global Contract

*Accepting the conditions of the type of contract (previous page), please fill out the blanks below form.

Corporate Name: .

Applicant's Name: .

Applicant's Department: .

Corporate Address: .

. .

TEL: E-mail: .

Please transfer the payment to the following:

*Bank : MIZUHO BANK (Swift code: MHCBJPJT)
*Branch: Kobunacho Branch (Phone:+81-3-3661-3111), [Branch code: 105]
*Branch address: 8-1 Nihonbashi Kobunacho, Chuo, Tokyo 103-0024 Japan
*Account Number: 105-1653912,
*Account Name: Japan Marketing Survey Co., Ltd.

Please make the payment in 15 business days.

Please transfer the payment the way the amount above will be deposited in our account.